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The Professional Geographer. New Series, Volume VIII, Number 3, May 1956. Contains professional notes, announcements, news, and reports of the Association of American Geographers. Published bimonthly by the Association of American Geographers at The Library of Congress, Washington 25, D. C. Annual subscription $3.00. Editor: Meredith F. Burrill, 5503 Grove Street, Chevy Chase, Maryland. Entered as second-class matter at the post office at Washington, D. C.

The Association also publishes *The Annals of the Association of American Geographers,* which contains professional papers, presidential addresses, and abstracts of papers delivered at annual meetings.

APPLIED GEOGRAPHY IN SCHOOL PLANNING: A SEMINAR

Donald D. MacPhail

Rapidly expanding school enrollments in the State of Washington demand a new kind of competence on the part of school administrators, a competence in applied geography. Western Washington College of Education has instituted, to help meet this need, a laboratory-type seminar in school planning as a training course for school administrators. The office of the State Superintendent of Public Instruction encouraged this training program, in view of the many communities with critical school situations and the applicability of the fundamentals of planning to local administrators' problems. The course was organized to give school officials a minimum background, but sufficient to enable them to operate effectively enough as planners to satisfy their own needs. The school planning seminar was designed primarily for administrators from small communities without funds for employment of highly trained specialists in urgent problems such as selecting school sites, delimiting school service areas, and forecasting school enrollments.

Recognition of the immediate need for this type of training program developed from a recently completed survey of school conditions by the Superintendent of Public Instruction, seeking a basis for predictions of future expansion on the community level.[1] Local school officials and citizen groups collected the data throughout the state, accumulating a wealth of valuable information. However, some of the material was difficult to collect without the aid of local volunteer specialists, and some was of doubtful validity. The school officials often lacked familiarity with the use or preparation of maps, or the know-how to organize a systematic survey of the school district's characteristics even after the state officials had outlined the basic steps. This survey, that so effectively showed the needs of the state's school districts, also showed the necessity of including planning concepts and techniques in the training of school administrators.

The seminar initiated by Western Washington College of Education was arranged for graduate students in school administration and presented cooperatively by specialists in geography, sociology, and education. The fundamental questions were these: (1) Where shall school plants be located to operate most efficiently? (2) How can school enrollment increases be anticipated? and (3) What kind of school organization will best serve a school district expecting large enrollment increases? The geographer brought in principles of area analysis and cartography which serve as convenient tools in the development of school plans. Demographic techniques applicable to the problem of school enrollment forecasting were demonstrated by the sociologist. The educator pointed out aspects of school administration pertinent to small-area planning. From this type of course, the school administrators who participated in the seminar gained knowledge of specific methods and acquired a broad perspective of planning to use in their own school districts.

Since this article is primarily addressed to geographers, the other phases of the seminar will not be stressed here, even though the demographic and administrative coverage shared equally with the geographic. The following points were considered as objectives for this course of study from the geographic

[1] The Superintendent of Public Instruction, *School Survey Guide*, Olympia, Washington, February 1954.

viewpoint: principles of small-area evaluation and analysis, determination of the types and sources of maps needed in planning operations, uses of maps in collecting data by various kinds of field surveys, map compilation procedures, simple map construction and reproduction techniques, preparation and use of overlays for a planimetric base map, and finally, familiarization with basic cartographic equipment and materials.

A school district with a wide variation in problems was selected as a laboratory area. Then, with the cooperation of local school officials, public utility firms, and county and state agencies, various kinds of data were gathered. All available maps of the school district were collected and classified according to content and scale. A list of the maps is appended. The seminar group acquired a good geographic understanding of the district by using these maps to supplement a field reconnaissance of the area. In addition, all available economic and population information was studied in order to analyze any apparent trends.

The case area selected was Ferndale, Washington. Aside from the obvious advantage of proximity to the campus, it was a good laboratory in several respects. It was a rural community experiencing the sudden impact of industrialization, with a great variety of land types and uses, many transportation obstacles, and a complex combination of social and racial groups.

The boundaries of the 100-square mile Ferndale district conform to no others, natural or cultural. Therefore, it was necessary to construct a planimetric base map on which to plot pertinent information. A base map was prepared by standard compilation procedures at a scale of two inches to one mile, after demonstrating that a smaller scale would not show the planning data in sufficient detail for an area of this size. For the same reason, it was decided that urban areas within the district should be shown at a scale of not less than four inches to one mile. On the base map were drawn all roads (classified according to surface), railroads, rivers and streams, boundaries and names of towns and villages, and the boundaries of the school district itself. For work sheets, the base map was reproduced in quantity as inexpensive brown-line prints. A series of transparent acetate overlays were also prepared so that assembled material could be correlated simultaneously on the base map.

Since the location of school buildings was one of the basic problems confronting the seminar participants, it was vital to analyze this in relation to the needs of the present population. A series of maps showing the location of all residences had been prepared prior to the seminar by a local telephone company. A supplemental dot map showing the distribution by pupil grade level was prepared in the laboratory. It was pointed out that similar maps showing the distribution of pre-school age children and of mothers by age would indicate areas where future school needs would likely appear, although time did not permit actual preparation as a part of the seminar.

Details of long-range population tendencies were indicated following a study of the economic trends of the area. Land use and land capability information was compiled from maps, aerial photos, and other sources in order to anticipate, where possible, the district's economic growth. Land improvements such as irrigation and drainage projects, highway construction, industrial and commercial expansion and real estate developments merited special attention.

A study of the topography identified problems imposed by natural and cultural features within the area. Topographic and soil maps gave important information on this subject. Important factors in determining the accessibility of certain school building sites were natural and man-made barriers to pedestrian and vehicular traffic -- rivers, swamps, railroads, and limited-access expressways. Impassable barriers made excellent boundaries for school service areas, particularly for elementary schools. Areas subject to flood, poorly drained or

otherwise physically unsuitable were avoided in selecting building sites. A correlation of topography, highways, and school population clarified the problems of scheduling school buses.

After studying the results of the population and economic surveys and their accompanying maps, the existing school service areas within the Ferndale school district were evaluated. Changes in the boundaries of these service areas were considered as the result of recent changes within the school district. Where it was possible to see future needs emerging, new school service areas and school sites were proposed.

In addition to general principles of planning, the graduate students accumulated a considerable amount of technical information pertaining to cartographic materials. In the laboratory, they had an opportunity to work on good quality drawing paper, tracing paper, and clear, transparent acetate. They also learned how to use mechanical lettering devices and several types of ink.

Transparent overlays prepared by teams of students accompanied a final comprehensive presentation of the laboratory area's present situation, problems, and proposed solutions. The overlays included a contour map, a land use map, a land capability map, a soil map, a dot map showing the distribution of elementary pupils, and a map showing barriers to pedestrian and vehicular traffic.

Although the seminar did not provide enough time for complete analysis of the Ferndale District, it did lead to definite conclusions. For example, the agricultural population may be expected to remain static or decline in the whole district. In the eastern and southern portions of the district continuing urban growth is likely, due in part to the completion of a new petroleum refinery and the possibility of future construction of subsidiary chemical industries related to it, and in part to northward expansion of Bellingham suburbs into the southern part of the district. A new elementary school location was presented for consideration with these facts in mind. A revision of school service area boundaries was recommended, taking account of a four-lane, limited-access expressway now being constructed through the center of the district. A proposal to study the adequacy of the district's present school bus schedules was also recommended because of the preceding information. An additional new elementary school location was suggested to replace an old one now being used in another part of the district. Preliminary population estimates were prepared for five and ten year periods.

The findings of the seminar were presented to the office of the superintendent of the school district at Ferndale and were discussed in detail by a joint committee of Ferndale school administrators and seminar staff members. The results were used by the Ferndale officials in planning the location of a new elementary school, and are now being considered in terms of long-range implications. Some previously favored school sites were discarded by the Ferndale officials upon viewing the results of the school district study.

Although it is still too early to evaluate the success of the laboratory-seminar training program, there was unanimous expression of satisfaction by the participants. The graduate students, themselves experienced school officials, felt that they would now be able to operate as self-sufficient planners, and several are reportedly now doing so in their respective school systems. The course itself was further enriched by having experienced school men from both Washington State and British Columbia as students because they constantly exchanged experiences and compared the problems of their home areas. For example, Town "A" had badly located a new school which was isolated within a year by a new superhighway. City "B" was given as an example of inadequate enrollment forecasting—its school building program did not meet current needs even though construction funds were available locally.

The problem of rapidly increasing school enrollments which accompany population growth is likely to continue in most parts of the State of Washington and the whole Pacific Northwest for many years. In some towns and cities of Washington, Idaho, Oregon, and British Columbia large increases have occurred in a matter of months.[2] Other towns and cities have shown less spectacular but steady growth. Rural and urban population expansion in the Pacific Northwest reflects both an excess of births over deaths in the established resident group and a large number of migrants entering the region from other areas in search of new jobs.[3] Large population increases have occurred in many parts of this region. A great number of these changes have been permanent, as in the irrigation centers of the Columbia Basin, in the newly established industrial towns along the Columbia River, Puget Sound, and the Strait of Georgia, and in the dormitory towns of the fringes of the major urban areas. Equally serious problems of a somewhat different nature occur in cities where construction projects have created large temporary migrant working groups, or where military establishments have been re-activated or expanded. One consequence of these population developments has been to place an enormous burden on school facilities at all educational levels.

Although planning offers no panaceas, school boards and administrators in each of the above localities can avoid costly errors through a careful evaluation of community needs.[4] Economy can be exercised in the purchase of desirable low-cost sites for future buildings, examined and selected well in advance of building construction, providing their necessity can be anticipated through long-range planning. A planning program also makes it possible to determine optimum school service areas and to initiate economies through more efficient operational procedures.

Geographers can make a real contribution toward the solution of the critical national and regional problem of school planning. They have proven themselves to be effective planners, particularly in urban and rural land use. Planning for schools in towns and cities is not new to the city planner. Indeed, many sound principles of school planning have evolved in the field or urban geography. However, school districts are not exclusively urban in character and may be mainly rural or may have a combined rural and urban nature. As a consequence, establishing planning procedures for all of these possibilities becomes a much more complex problem than one of purely urban origin.

Area analysis, cartographic representation and other techniques that serve educators well can be offered by geographers either individually or as team members. In either case, school planning offers geographers still another opportunity to apply their special skills.

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[2] Bureau of the Census, U. S. Department of Commerce, *County and City Data Book, 1952*, U. S. Government Printing Office, Washington D. C., 1953.

Schmid, Calvin F., "Population Trends in Towns and Cities of the State of Washington." *Western City*, February 1952.

[3] Census Board, State of Washington, *Population of Towns and Cities in the State of Washington: April 1, 1955.* News Release, Seattle, Washington, August 3, 1955.

[4] Hansen, Thomas L., Berry, Harry W., and Haaland, Thorkel M. *Guide for Planning Elementary Schools in the State of Washington*, Bulletin No. 217 of the Washington State Institute of Technology, State College of Washington, Pullman, Washington, April 1953.

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13. Washington State Census Board. *Population Distribution, Washington: 1950.* Scale 1 inch equals 13.2 miles (approximately). Seattle, Washington, May 1, 1952.
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15. Whatcom County Road Department. *1950 Official Map, Western Half Whatcom County, Washington.* Scale 1 inch equals 2 miles.

A CORE LIST OF AERIAL PHOTOGRAPHS FOR GEOGRAPHY COURSES

Franklin C. Erickson and George K. Lewis
Boston University

The aerial photograph is a highly useful tool for geography teachers who would like to expand their students' observational experience but cannot increase the time spent actually in the field. A number of geographers have actively engaged in research pertaining to or utilizing aerial photographs,[1] but in the classroom they seem not to have taken full advantage of this new and significant answer to the perennial problem of bringing the field into the laboratory or classroom.

For a half-century geography students in the United States have been poring over the Bright Angel or Mammoth Cave or Cape Hatteras topographic sheets, and, in some of the larger colleges or universities, over foreign topographic sheets es well. Introduced initially to illustrate physical features such as folded mountains (who can ever forget the Harrisburg sheet?), baymouth bars, or sinkholes, the topographic sheet soon found use in demonstrating cultural features as well. Irrigation ditches, street patterns and other works of man became factors in interpolation. This trend may have gone to excess, but no one will deny that some broad inferences were drawn! Recent editions of introductory geography textbooks contain lists of pertinent topographic sheets for classroom or laboratory use. At best, however, the topographic map represents only selected and generalized phenomena. Instructors in forestry, engineering, geology and geomorphology have therefore increasingly turned to aerial photographs for observation of actual features of the earth's surface.

This has not been as true in introductory classes in physical geography, and even less true in cultural or human geography classes. The principal deterrent has been the problem of obtaining the photographs. In the United States recent photography at useful scales has been carried out by a number of government agencies. The coverage of good quality pictures is ample, but after the relatively minor problems of identifying and obtaining index sheets, and of adjusting plans for possible time lag in the process, comes the major problem of selecting the best combination of photographs from small scale indexes of great numbers of pictures. A "core" list of recent and readily available aerial photographs selected and tested in instructional use by the Department of Geography at Boston University is therefore offered here to those who may wish to use it.

The list was compiled initially to illustrate a number of the more important agricultural regions of the United States, demarcated on the basis of Department of agriculture data.[2] Each set of photographs covers a small section of a major agricultural region, although the list is by no means complete. The amount of land in crops, fallow, woodland, etc., is shown, as well as farm layout and farm buildings and any town or city that may be nearby. Moreover, the relationship of the farms to relief, drainage, etc., is effectively demonstrated. Each set is arranged to provide several pairs of photographs for use with a stereoscope.

Of equal interest are the many physical features shown on these photographs, such as natural levees, alluvial fans, braided streams, and coastal

[1] See Hibberd V. B. Kline, Jr.: *"The Interpretation of Air Photographs,"* in *American Geography: Inventory and Prospect.*

[2] "Generalized Types of Farming in the United States," Bureau of Agricultural Economics, U. S. Department of Agriculture, February 1950.

plains. The inclusion of such features was in many cases only coincidental, but it would be difficult to select a dairy region in Minnesota without including kettleholes, outwash plains, and other glacial landforms.

This "core" list can therefore be used in teaching not only agricultural geography but also certain introductory phases of cultural geography, the geography of the United States, land use, or air photo-interpretation.

The photographs, mostly taken in 1952, can be ordered for all states on or *east* of the 100th meridian (except North Dakota and Kansas) from:

Eastern Laboratory,
Performance and Aerial Photography Division,
Commodity Stabilization Service,
U. S. Department of Agriculture,
Washington 25, D. C.

and for all other states from:

Western Laboratory,
Performance and Aerial Photography Division,
Commodity Stabilization Service,
U. S. Department of Agriculture,
167 West Second South,
Salt Lake City 1, Utah

Additional data, including an order blank, can be found on Commodity Stabilization Service Form CSS–441. The cost of the full set of photographs will be about $50. Some instructors may also wish to obtain the small scale index sheets showing the individual photographs in their surroundings. Such sheets are uncontrolled mosaics covering all or part of a county and give a broad impression of the general area. The six to twelve large scale photographs from one county can, of course, also be mounted as a mosaic for classroom use. The procedure by which this "bringing the field into the laboratory" is integrated into the program will undoubtedly vary considerably, and no set pattern is suggested. The "core" list is applicable widely.

State	County	Type of Farming	Photo Numbers (Inclusive)
California	Orange	Fruit, truck, & mixed farming	AXK– 1K 18–20, 32–34; AXK– 2K 71–73, 103–108
New Jersey	Cumberland	Fruit, truck, & mixed farming	CMW– 8 26–28, 58–60
Utah	Box Elder	Range livestock	AAH– 1K 102–103; AAH–17K 37–39; AAH–18K 95–97
North Dakota	Ramsey	Wheat & small grains (spring wheat)	DOH– 7H 145–147, 205–207; DOH–14H 137–139
Kansas	Sumner	Wheat & small grains (winter wheat)	AYD– 2G 8–11, 84–87; AYD– 3G 48–50
Minnesota	Nicollet	Dairy	BJG– 2G 71–74, 126–128
Iowa	Pottawatamie	Feed grains & livestock (Corn Belt)	BKP– 2G 95–98, 141–144
Mississippi	Humphreys	Cotton	CEM– 2H 120–124; CEM– 4H 32–36
North Carolina	Caswell	Tobacco & general farming	AJQ– 6H 62–64; AJQ– 9H 25–27; AJP– 6H 61; AJP– 9H 28
Louisiana	Acadia	Special crops & general farming (rice)	CEE– 5H 168–169, 200–203; CEE– 6H 86–88
Louisiana	Assumption	Special crops & general farming (sugar cane)	CEF– 2K 163–166, 193–196

THE CANADIAN ASSOCIATION OF GEOGRAPHERS[1]

J. Lewis Robinson

It is an honour to express the pleasure of Canadian geographers that the Association of American Geographers chose to meet in our country, and on behalf of the Canadian Association of Geographers to welcome you and to wish you every success in your meeting.

Although many members of our Association are, and will remain, members of the Association of American Geographers, it was felt a few years ago that our subject and profession would receive greater recognition in Canada if we formed a separate association. Encouragement came from several parts of Canada, and during the summer of 1950, a preliminary organization took place in Ottawa. A preliminary constitution was drawn up and circulated to Canadian geographers during the fall, and there proved to be general agreement on the purposes and aims of a Canadian Association of Geographers. The first meeting was called for May 1951, at McGill University, here in Montreal. From the initial registration at that meeting of 54 geographers, geography teachers and other persons interested in geography, our Association has grown to a membership of 95 full members, 41 student members, and 23 associate members. Five annual meetings have been held since – Montreal, Quebec, London, Winnipeg, and Toronto. The papers presented at these meetings have been published in seven issues of *The Canadian Geographer*. Our sixth annual meeting will be held on June 6–9th, when we will be the guests of the University of Montreal. You are always welcome at our annual meeting.

Although the Canadian Association of Geographers is new in Canada, geography as an academic subject is not. The teaching of geography at the university level has paralleled, but at a later date, the expansion of academic geography in the United States. Geography courses were given at some Canadian universities prior to 1920, but not by trained geographers. The first geographers were trained in France and came to the Quebec colleges and universities in the middle 1920's. Geography in the English-speaking universities of Canada came more slowly to departmental status. Dr. Griffith Taylor, later the first Canadian geographer to be President of your Association, became head of the department of geography at the University of Toronto in 1936. Other Ontario universities followed this lead, but rapid expansion in the number of geography programs came only after World War II. From Quebec province westward, all but one of the universities have geography departments whose students compose a good percentage of the total enrolment in the Arts faculties. The Maritime universities, lacking the endowed wealth of their New England counterparts, have not yet introduced geography courses.

Prior to World War II, the Canadian government used the term *geographer* to denote a draughtsman, or a person interested in the compilation of maps. A few trained geographers entered government service during World War II. The establishment of the Geographical Bureau (later the Geographical Branch) of the federal government in 1947, was an important step in the development of professional geography in Canada. Whereas the American government employs geographers in many departments, the Canadian government has centralized most of its geographers in one branch, where they work for other government agencies upon request, and carry out field and research work on the geography of Canada. Geographers have also been employed in recent years by several provincial

[1] Address of Welcome by President Robinson of the Canadian Association of Geographers at the Montreal meeting.

governments and by local planning agencies. Their positions have been in the field of resource administration and applied regional analysis.

On a percentage basis, geography is probably taught to more students in Canadian than in United States universities; there is a centralized geographical agency in Ottawa, but geographers are not so widely employed in government as in the United States. Geography is established and growing in several provincial government services as it is in those of state governments south of the border. Geography plays still a minor but increasing role in Canadian business and industry.

Geography, like so much of our cultural heritage, shows both European and American influences – and we like to feel that we take the best from both, but perhaps we are prejudiced! Our senior geographers are generally young, as might be expected in a young and growing country, where the profession is new. We have been trained in Great Britain, France, and the United States because it is only in the last few years that graduate training has been established in Canada. European and American training, brought to bear on Canadian problems, might produce aims and purposes which may differ from yours. We do, however, agree on most matters and principles, and together we can do a great deal to promote better standards of geographical research and training. Thus, as colleagues and friends, we welcome you to your first meeting in Canada, and trust that there will be many years of cooperation ahead of us.

PUBLIC LAW 566--CHALLENGE TO GEOGRAPHERS

Eleanor E. Hanlon

A significant challenge to "grass-roots geography" is posed by Public Law 566, the Watershed Protection and Flood Prevention Act, approved by Congress in August 1954. (P.L. 566--83rd Congress--68 stat. 666.) This act opens a new avenue to the solution of water management and flood prevention problems by furnishing a means for local watershed groups to cooperate with and receive Federal aid in carrying out measures involving: (1) "flood prevention, including structural and land-treatment measures, or (2) agricultural phases of the conservation, development, utilization and disposal of water."

The act authorizes the Secretary of Agriculture to assist local organizations in preparing and carrying out various conservational projects, designated as "works of improvement." The Soil Conservation Service has been assigned primary responsibility for putting the act into effect.

Here for the first time local people in small watersheds (limited to 250,000 acres) are given the opportunity to study the problems of their own areas and to carry forward plans to solve them, with Federal help. In order to obtain financial assistance, local groups must assume the initiative, prepare plans and submit applications to "the State agency having supervisory responsibility over programs provided for in this Act"; they must, furthermore, be ready and able to accomplish the measures proposed and to operate and maintain them. As of early December 1955, approximately 450 applications had been approved and 1600 more were in preparation.

How may geographers contribute to the development of the small watershed movement? What may they do to aid the Soil Conservation Service and other cooperating agencies in best expediting the measures permitted by Public Law 566?

As individuals, we can accept the challenge by assuming leadership in developing plans for our own local watersheds. More than any other citizen-group, we realize that small watershed planning is complex, and that an effective watershed

work plan must be based upon knowledge of the geography of the area and its region. We are also aware of the gaps in such knowledge. Most of our fellow-citizens have little appreciation of the need for detailed maps of the elements of the physical and cultural landscape, nor of the value of analyzing their patterns in terms of areal similarities and differences. In fact, they do not realize that there are serious deficiencies in basic data on such elements as rainfall, run-off, ecological, physiographic and land use inventories, population, settlement and economic phenomena. Here we can help through our professional perspective at the very core of the movement.

Our individual contributions at the local level will not be made simply, nor should we expect rapid acceptance of all of our ideas. The nature and importance of basic data, areal description and analysis may be strange and difficult concepts to local committees. The latter are, furthermore, extremely impatient; they want the job done yesterday! We may anticipate doing a good deal of patient explaining in committee meetings, illustrating our points by maps and other material. We may lead in directing specific problems to existing agencies responsible for their solution. We may patiently and diplomatically show that it makes sense to study the whole watershed and its problems carefully before applying for aid under Public Law 566.

Such contributions may become programs of Geography Departments offering majors or graduate degrees. Students need "thesis topics"; our small watersheds need detailed study.

The objections may arise: "But, are not the staffs of Watershed Planning Units in the Soil Conservation Service already handling these problems? Might there not be duplication of effort?"

The answer to the first question is: "Only within limits." Demands upon the time of Soil Conservation Watershed Crews are excessive, with continually pressing deadlines for preliminary reports and work plans and numerous meetings with local groups or State and Federal agencies. They must tackle problems ranging widely across social, economic and technical fields, and varying from one watershed to another. They need and welcome help; in fact, the law itself directs them to seek it and use it.

The answer to the second question depends upon us. The first step, therefore, is to call upon the local Watershed Planning Party Chief. Introduce him to the kinds of research on the local area completed or in progress in the Department. Discuss with him the problems he faces or anticipates. Invite his suggestions on topics for theses or other papers. Here is a place for those little regional studies. Here is an opportunity for Senior Honors Papers, Masters' Theses and even Doctoral Dissertations to have immediate practical value, as well as to meet the requirements of training in scholarship. Here is a chance, in giving needed help, to show what geography is and what it can do. Watershed Planning Unit members are usually professionally trained:— agronomists, engineers, foresters, soil conservation farm planners, hydrologists, economists. Rarely are they familiar with the work of geographers, but they are intelligent and sincerely appreciative of worthwhile cooperation. The Small Watershed Protection Program could readily lead to greater recognition of the contribution of geography to problems of conservation, resource management and regional planning.

A map entitled "Watershed Protection and Flood Prevention," issued recently by the United States Department of Agriculture, shows 123 watersheds already approved under Public Law 566 and in work-plan stage, in addition to the 65 pilot projects begun in 1953. The distribution is remarkably coincident with areas in which college and university Geography Departments are active, particularly in the Midwest, the Ohio Valley, the southern Piedmont and the Northeast.

At the rate applications are being submitted and approved, this situation will become increasingly favorable in the months ahead.

Geographers can also make important contributions on the regional and national levels. Any new and comprehensive program is bound to have weaknesses, to be subject to critical evaluation and open for improvement. This one is no exception. Certain definite limitations in the law are already posing serious problems. For example, the act prohibits financial help for measures intended primarily for supplying or distributing water for non-agricultural use, for pollution abatement or for recreation. Yet we are all aware that in many small watersheds these problems are more acute than those pertaining directly to agricultural land treatment or flood prevention. If we agree that "it is the responsibility of all the people in the watershed to participate actively in the preparation and prosecution of their own resource program"[1] and that "to be effective, watershed programs should deal with all resources and all related problems, preferably simultaneously,"[2] then clearly the law needs amendment.

The Report of the Mid-Century Conference on Resources for the Future summarized some of the broad questions which action on Public Law 566 will bring to a critical point, as follows:

> "Development of land on the basis of small watersheds brings onsite benefits, but you cannot plan a small area separately from the larger area; you cannot plan a single project inseparably from the rest of the basin in which the project is to exist. Many participants favored a national policy for land and water that would involve greater integration among agencies, on both federal and state levels, . . ." Suggestions for integration included a commission to determine policy, creation of a department in which all agencies now in the field would be brought together, and a combination of both.
>
> It was pointed out that the research being conducted today by no means comprehends all aspects of watershed work—the social and economic as well as the physical. More inventory data on land and water and more basic and applied research are needed, . . . , before watershed development work can be accurately evaluated..."[3]

It might be worthwhile for the Association of American Geographers and its regional divisions to evaluate the progress of the small watershed programs. to publish such evaluations, to conduct or supervise research which might throw light on methods of achieving more balanced resource development planning. There is a real need for an "unbiased private-agency" assessment of the accomplishments of the Small Watershed Protection Program, and for objective criticism leading toward better regional planning of all our resources.

Public Law 566 presents a stirring challenge to professional geographers as individuals, as members of college and university Departments, and as members of our regional and national organizations!

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[1] *The Nation Looks at its Resources.* Report of the Mid-Century Conference on Resources for the Future. Washington, D. C. December 1953. Resources for the Future, Inc. November 1954 p. 123.

[2] ibid p. 123

[3] ibid p. 117

THE BUNGER HILLS AREA OF ANTARCTICA

Fred Alberts and Gardner Blodgett

Widespread public interest was aroused by the announcement in February 1947 that a large ice-free area on the Knox Coast of Antarctica, dotted with multi-color lakes, had been discovered and photographed by aircraft of United States Navy Operation Highjump. The Antarctic programs of the International Geophysical Year, 1957–58, will undoubtedly bring the area into public attention again. This article and accompanying sketch map are offered to provide some details of the area and its geographic nomenclature not heretofore published.

Early accounts referred to the ice-free area as "Bunger Oasis" or "Bunger Lakes" because of its discovery and a landing there by a PBM Mariner seaplane commanded by Lt. Cdr. David E. Bunger, USN. Subsequent analysis of Operation Highjump aerial photographs shows that the name Bunger Hills would be more definitive for the continental outcrops and the name Highjump Archipelago for the offshore outliers, and the names were so approved by the United States Board on Geographic Names.

The area was revisited in January 1948 by survey parties of United States Navy Operation Windmill. These parties landed by helicopter at several points in Bunger Hills and nearby Highjump Archipelago, establishing astronomical control on Thomas Island and making other scientific observations that supplement and confirm information derived from Operation Highjump photographs.

Operation Highjump personnel were first to view and describe the Bunger Hills area as it is now known. The first sighting of their western extremity was by a party under A. L. Kennedy of the Australasian Antarctic Expedition in December 1912. The early sighting was made from Watson Bluff on David Island, about 47 miles away. Because of physical limitations imposed by this sighting distance and moderately low relief the feature was interpreted as two small islands. They were shown and the northern one designated "Hordern Island" on the map entitled *Western Base Station* included as an end paper in the Australian scientific reports, Series A, Vol. I, *Geographical Narrative and Cartography* by Douglas Mawson, 1942. "Hordern Island" has now been identified as a cape and so designated by the Board on Geographic Names. As has often happened with Antarctic coastal features, for 35 years the real nature of the feature was not known, setting the stage for the unexpected discovery of a sizable group of hills and islands lying just over the horizon from the Australian party's view.

The Bunger Hills are a series of brown, barren coastal hills estimated to be 200 to 400 feet high, extending about 22 miles between Scott and Apfel Glaciers on the west and Remenchus Glacier on the east. According to E. T. Apfel, Operation Windmill geologist, Bunger Hills and the adjoining islands are composed of metamorphosed sedimentary rock intruded by granite and later by basalt dikes. Subsequent erosion exposed the earlier series of rocks, and glaciers carved the hills into an irregular terrain. The retreat of the ice has left large amounts of glacial debris, including boulders of small to medium size which lie on all but highly inclined surfaces. Numerous small lakes and ponds, nearly all of them saline, occupy depressions in the hummocky morainic material.

The Highjump Archipelago, fringing the hills on the seaward side, comprises several islands on the order of five miles long and more than 100 smaller ones. Numerous channels and inlets divide the archipelago into smaller island groups and indent the coastal hills. In the western part of the area the Edisto Ice Tongue, formed by Apfel and Scott Glaciers, occupies much of Edisto Channel and lies across the entrances of inlets leading into Bunger Hills. In one of these inlets

Bunger landed his seaplane to examine the algae-tinted water and to take ground-level photographs.

Various explanations have been offered for the existence of the ice-free Bunger Hills. The most significant of these, borne out by Operation Highjump aerial photographs, is failure of the Bunger Hills to receive the glacial drainage from the hinterland typical of other Antarctic coastal areas. Scott, Apfel, and Remenchus Glaciers channel most of the seaward flowing ice in the locality around the periphery of the Bunger Hills. The bare rocks absorb heat from solar radiation during the continuous daylight of the Antarctic summer, causing the rate of snow melting to exceed that of accumulation. Action by the wind may assist in clearing the area but no evidence of heat of volcanic origin exists. No investigations have been made during winter months.

Although the rock exposures of the Bunger Hills and open water areas in the summer invite further work in the area, access by ship may present problems. The icebreaker U.S.S. *Edisto* of Operation Windmill was able to advance only to the consolidated sea ice paralleling the north side of Mill Island, some 30 miles north of the Bunger Hills. In any given year closer approach may be possible since it is known that Antarctic ice conditions fluctuate widely. It has been suggested that sufficient runway space exists in parts of the Bunger Hills where morainic drift could be graded to provide landing strips a mile long.

Information on continental ice and sea ice conditions obtained by International Geophysical Year parties may permit correlation with earlier conditions

documented by aerial photographs taken by Operation Highjump and Operation Windmill in 1947 and 1948. Seismic soundings taken on the continental ice overlying the landward side of the Bunger Hills may determine the precise location of the coast line and show that significant portions of this ice-free area are of an insular nature. In such an event some names would require revision.

The names appearing on the sketch map, for the most part, commemorate the ships and personnel of Operations Highjump and Windmill. They conform to the Board on Geographic Names' policy of applying to Antarctic features as far as possible names actually associated with their exploration.

SOME NOTES ON TRAINING IN RESOURCE GEOGRAPHY

by Robert B. McNee

The article by Prof. Jensen in the January *Professional Geographer* clearly recognizes the interdisciplinary nature of resource geography, but seems to give unusually heavy emphasis to the physical and biological sciences and related parts of geography. Would this curriculum, no doubt well adapted to the specific needs of students in Oregon State College, be useful as a general resource curriculum? Is there not need for the social sciences in the training of professional resource geographers?

The absence of economics, not listed among required courses, seems particularly unfortunate. Are the nearest equivalents among suggested electives, "planning, marketing, industrial and commodity analysis," sufficient introduction to the dismal science? After all, economics is one of the most advanced of the social sciences and is frequently described as a grand problem in resource allocation. One could further point to the voluminous studies of land and agricultural economics, economic development, regional and industrial economics; or to the frequency with which courses bordering on resource geography, such as economic geography, regional economics, resources and industries, are found in departments of economics; or finally, to Zimmermann's *World Resources and Industries*, a classic study of resources by an economist. In short, professional training in resource geography without significant economic background would appear dangerously one-sided.

Perhaps it was assumed that sufficient economics would be included among the free electives. If so, the assumption is meaningful. Does this represent a general weakness among geographers? We, who write so voluminously of resources, economies, and economic geography seem to feel that training in economics *per se* is unnecessary. Is this realistic? As a geographer, I am well aware of the historic reasons for the many geographers' naturalistic bias. It is not surprising that the teleological approach of many economists alienates many geographers. However, reason demands that professional training in resource geography include the widest possible inter-disciplinary base. Resource geographers may wisely choose to remain distinct from resource economists, but they must be well grounded in economics.

REPORT OF THE PRESIDENT

The Association ends its 52nd year with a membership of 1,825. One hundred eighty-four new members and associates were added to our rolls and 23 were removed, ten by resignation and thirteen by death. This net increase of 161 is a great improvement over conditions in recent years when resignations, or members dropped for non-payment of dues equalled or in some years actually exceeded the number of new members added. This improved situation is largely attributable to the Secretary's policy of writing delinquent members soliciting their complaints, if any, and urging their continued support. Closer attention to billing and follow-up notices by the Central Office has also contributed to improvement. The co-operation of the Membership Committee, the chairmen of the Regional Divisions and of the Credentials Committee has been excellent.

The principal problem of the Association is the increased work load, especially in the Central Office, but also for the Editors, Treasurer, Secretary, Credentials Committee, and Placement Committee. We are apparently at an awkward size where the work load justifies a full-time Executive Secretary and Editor but our income barely meets our current expenses.

The office of President is perhaps the only position in which the work load has not greatly increased in the past 5 years. Relieved of the task of preparing an address, the President is theoretically free to devote more time to the administration of the Association. However, being blessed with an extremely capable Secretary, an experienced and capable Treasurer and above all a most competent manager of the Central Office, I have found the business affairs of the Association to be very smoothly and effectively run.

Furthermore in the innovations which the Council has this year initiated I have been most fortunate to have the help of very capable and devoted committee chairmen and members.

I wish to call attention especially to the work of the Publications Committee, its Chairman Edward Espenshade, and the Editors, Walter Kollmorgen and Meredith Burrill. I consider this committee the most important of all the committees of the Association because the *Annals* is the one tangible and lasting item by which our society can be judged and through which the concepts of our profession are tested and preserved. About one-half our annual budget is spent for our publications, and to many members of the Association they constitute the only contact with the society.

This year the format of *The Professional Geographer* has been changed greatly improving the appearance of the publication and at the same time increasing its content. The committee has studied publication costs, format, and contents of the *Annals*. It has recommended to the Council the inclusion of book reviews in the *Annals* and Norman Ginsburg has been appointed book review editor. The committee has recommended that a map supplement to the *Annals* be occasionally published and has worked out specifications for this sheet map publication. These are only examples of the tasks this committee has capably accomplished.

A Publications Review Committee was also appointed at the Memphis meeting. This committee is to review our whole publications program including the *Annals*, *The Professional Geographer* and special publications such as *American Geography, Inventory and Prospect*, and to formulate a publications policy for the Association. This committee got off to a slow start because the first chairman was forced to resign because of other commitments. Chauncy Harris

has agreed to take on this committee and I am sure we can expect a thorough and thoughtful job.

The Committee on Exchange of Publications under the chairmanship of Marie C. Goodman has made a thorough review of our exchange program, and is now reviewing our present exchange list and applications for exchange to determine the value to geographers of each exchange publication. It is planned to publish in *The Professional Geographer* the publications we are receiving. I wish also to commend the Finance Committee and the Placement Committee and their chairmen, John Orchard and John Augelli, for splendid cooperation and performance during the year. To Henry Kendall and the Program Committee and to Kenneth Hare and his Local Arrangements Committee, I am sure you all join me in expressing appreciation for a lot of hard and often thankless work.

The development of the Regional Divisions is heartening. I attended meetings of four divisions during the year: New York–Ontario, New York Metropolitan, Middle Atlantic, and Southeast. Although these divisions differ in organization and objectives, each seems to be serving a useful function. I was most favorably impressed by the organization and enthusiasm of the Southeastern Division.

Last but certainly not least, I want to pay tribute to our Secretary, Bert Adkinson, who has handled most problems of the Association so promptly and efficiently that my principal function has been to listen to his analysis of the problem and approve his suggestion for action.

1955 COUNCIL – FINAL MEETING

Montreal, P.Q. – March 31, 1956

Summary of Actions:

1. Approved the $2 registration fee for the Montreal meeting.
2. Accepted the Minutes of the February 11, 1956 meeting of the Executive Committee as corrected.
3. Approved a motion to authorize Walter Kollmorgen to have an Index for Volume 45 of the *Annals* prepared and be granted sufficient funds (with an upper limit) to pay for clerical and other expenses.
4. Ratified the Executive Committee's February 11 action authorizing a 1,000 copy reprinting of *The Nature of Geography*.
5. Agreed that the remaining unbound copies of *American Geography: Inventory and Prospect* should be bound at the end of the coming fiscal year.
6. Accepted the recommendation of the Treasurer that the Association's fiscal year be on a calendar year basis ending December 31st.
7. Requested the Middle Atlantic Division to set up its own bank account instead of using the Association treasury.
8. Recommended that establishment of a Publications Fund by amendment to the By-Laws be considered at the Business Meeting in 1957.
9. Increased the 1956 allotment for *The Professional Geographer* from $2,400 to $2,600; reduced the allotment for the *Handbook–Directory* from $2,000 to $1,900; and reduced the allotment for *The Nature of Geography* from $2,500 to $2,400.
10. Approved the amended Budget for 1956.
11. Rejected a motion that persons failing to mark a divisional preference on the dues card should not be included in the payment to the divisions.
12. Voted to continue allotments to the Divisions. Referred to the 1956 Council the determination of the basis of allotments, and appointed a committee to prepare recommendations.

13. Appointed Guido Weigend, Harold Hoffmeister, and Clyde Kohn to serve as the Resolutions Committee.
14. Authorized employment of extra clerical assistance in the Central Office during the peak load of Placement Committee work.
15. Approved the policy statement proposed by the Exchange of Publications Committee and expressed appreciation to the chairman, Marie Goodman.
16. Added to the Business Meeting agenda the announcement of results of the election of Association officers.
17. Approved research grants of $500 each to Leslie Hewes and John F. Hart.
18. Requested the Secretary to report at the Business Meeting, with reference to the resolution passed in Memphis concerning publications from countries deemed unfriendly, that after considering the report of a special committee the Council referred the matter to the Association's representative to the A.C.L.S. for further study, and that copies of the committee report are available from the Central Office upon request.
19. Set the date and time for the First Meeting of the 1956 Council, Monday, April 2, 1956, at 8:30 a.m.

1956 COUNCIL – FIRST MEETING

Montreal, P.Q. – April 2–3, 1956

Summary of Actions:

1. Named the following as the 1956 Executive Committee: Clarence Jones, President; Burton W. Adkinson, Secretary; Wallace W. Atwood, Jr., Treasurer; Louis O. Quam, Past President; and Wilma Fairchild and Edward Ackerman, Councilors.
2. Appointed members of AAG committees. The list will appear in the July issue of *The Professional Geographer*.
3. Rejected a motion that the Council establish a committee for younger geographers.
4. Approved a tentative Budget for 1957 in the amount of $24,500, subject to formal adoption later in the year.
5. Voted that allotments to Divisions be based on paid-up membership as of December of each year and be computed at the rate of 50 cents for each member, associate, married couple, and student.
6. Voted that Division payments be made in July 1956 and that subsequent payments be made in January of each year.
7. Increased the dues of Associates from $7.50 to $10 per year, and provided that students may request remission of 50% of this amount.
8. Approved a motion that research grants be authorized for 1957 up to the following amounts: Atwood Award, $500; Research Award from Royalties Fund, $500.
9. Voted that members and associates who are delinquent in payment of dues for a six month's period will be removed from the list of persons to receive Association publications on July 1st and that failure to pay dues by the end of one year of grace will result in their being dropped from the membership list of the Association.
10. Appointed the following delegates to national and international bodies: U. S. National Committee, IGU: Clarence F. Jones (1957), Guido Weigend (1957), Edwin Foscue (1958), and Chauncy Harris (1959); American Association for the Advancement of Science: Lester E. Klimm; National Research Council: Louis O. Quam (1959); National Council of Geography Teachers: Norman Carls.

11. Ratified appointment of Alfred Meyer as Chairman of the Program Committee for the Annual Meeting in Cincinnati in 1957, and appointed the other members.
12. Approved tentative plans for the program and local arrangements.
13. Ratified appointment of Huey Louis Kostanick as Chairman of the Local Arrangements Committee for the annual meeting in Los Angeles in 1958.
14. Appointed the staff of the Department of Geography at the University of California at Los Angeles and Professor George M. McBride as the Local Arrangements Committee.
15. Approved the selection of the Miramar as headquarters hotel for the Los Angeles meeting.
16. Approved August 19–22, 1958 as the dates for the Los Angeles meeting.
17. Accepted the invitation of the Department of Geography at the University of Pittsburgh to hold the 1959 Annual Meeting in Pittsburgh, Pa.
18. Requested the Publications Committee to prepare a statement of the purpose, use, and nature of a Non-Serial Publication Fund.
19. Instructed the Central Office to require advertisers to submit copy "ready for camera," instead of copy requiring type-setting, in order to avoid increasing the advertising rates for *The Professional Geographer.*
20. Authorized the Central Office to send out ballots in stamped, return address envelopes marked "Official Ballot" with an instruction to members to sign the envelope, but provided that a signed ballot will not be considered invalid.
21. Requested the Central Office to investigate the costs of an automatic electric duplicator.
22. Designated the New York Metropolitan Area and Peter Stern, Chairman, as representatives of the AAG to cooperate with Section E of the AAAS in setting up a program for the AAAS meeting in New York in December 1956.

1957 CINCINNATI MEETING

The 53rd annual meeting of the Association, at the Netherland Plaza, Cincinnati, will begin with a field trip on Sunday, March 31 and conclude at noon on Thursday, April 4. Miami University and the University of Cincinnati are co-host institutions. Alfred H. Meyer of Valparaiso University, chairman of the program committee, and Henry M. Kendall of Miami University, chairman of the local arrangements committee, invite suggestions from the membership.

It has been requested that *The Professional Geographer* delicately call the attention of the membership to the registration fee "facts of life." Having outgrown the campuses, the meetings have to be held in hotels. This involves considerable costs for such items as rental of space and equipment, preparation of space of research exhibits and commercial exhibits, and the printing of registration and identification forms. The Association budget does not and can not cover these costs. Public, tax-supported host institutions can and do lend personnel and equipment, assuming a heavy burden, but have no way of making monetary contributions to support a convention. Few individuals or business concerns will, or can, contribute significantly. The only funds available to the local committee are registration fees and charges for commercial exhibit space.

It is, therefore, essential that *all* members present at the meeting register and pay the registration fee. The amount of the fee, set by the AAG Council with due regard for members' pocketbooks, is far lower than that usually charged at comparable conventions. It will remain so if *all* in attendance will register, but neither the Association nor the local committee is in a position to make up deficits. Most members of the Association are, of course, aware of all this, but perhaps there are some who have omitted registering as a personal economy, not

recognizing that their part of the load would have to be carried by others. This explanation is for them. Any questions? The registration desk is on the right.

Preliminary plans for the 1957 program as approved by the Council contemplate the inclusion of both invited and contributed papers, in four main parts:

a. General sessions: The President's Program; the Near East; the Old Northwest.
b. Parallel sessions: Tension areas of the world; Resources for the future; Geophysical research of special interest to geographers.
c. Informal discussion groups.
d. Combined or joint sessions with other professional societies.

The Council also approved December 1st as the deadline for receipt of abstracts of papers and such other material as may be necessary for the committee to judge the quality of papers.

ANNUAL BUSINESS MEETING

President Louis O. Quam called the 52nd Annual Business Meeting to order at 4 p.m. on April 4, 1956. His report on the major activities of the Association during the past year appears in this issue.

He announced the election of the following officers and councilors for 1956: Clarence F. Jones, President; Chauncy D. Harris, Vice President; Wallace W. Atwood, Jr., Treasurer; F. Kenneth Hare and Richard F. Logan, councilors.

The agenda for the Business Meeting was presented and approved. Sigismond Diettrich, Donn Haglund, and Henry Hunker were designated as tellers.

Guido Weigend, on behalf of the Membership Committee, read a brief tribute to each of the members who have died during the past year and a period of silence was observed by the assembly.

Secretary Adkinson presented his report on the international, national, and local activities of the Association, expressing his appreciation to the large number of geographers who willingly gave their time and ability to further the profession and assist in the AAG program. He stated that approximately ten percent of the membership participated in the work of 26 committees or accepted special assignments for the AAG, not including the geographers participating in divisional activities.

Treasurer Lemons reported that the AAG continues to be in a sound financial condition. The overall net worth increased from approximately $53,000 to $59,000. Total income was $27,658.55 and total expense was $26,272.21. For the first time in years, major changes were made in the Association's holdings of stocks and bonds, based on recommendations from the Finance Committee and from the investment firm, Merrill Lynch, Pierce, Fenner and Beane. The objective was to streamline and strengthen our investments for both security and income. To implement this policy, several transactions involving the purchase and sale of stocks and bonds were made during the year. The Treasurer recommended that this policy be continued. He also pointed out that the Association should watch costs and expenses, which are increasing each year at a more rapid rate than income. This means that additional revenue must be sought or that services must be curtailed. With the conclusion of his term of office, the Treasurer expressed his appreciation for the honor and trust conferred on him during the past three years.

The Council's nominees for the Credentials Committee, William Pierson, Minnie Lemaire, and E. Willard Miller were elected unanimously. The Council's nominees for the Nominating Committee, Raymond E. Murphy, Rayburn W. Johnson, and James J. Parsons were elected unanimously. The Council's nominees for the

Honors Committee, Samuel Emory, Glenn T. Trewartha, and John C. Weaver, were elected unanimously.

Secretary Adkinson presented a report by John Kerr Rose on "Some points concerning government policy on distribution of printed material from countries deemed unfriendly to the United States,"* and stated that the matter has been referred to the AAG representative to the American Council of Learned Societies to investigate the possibility of further action.

The report of the Resolutions Committee, Guido Weigend, Harold Hoffmeister, and Clyde Kohn, was presented and accepted.

The meeting adjourned at 5 p.m.

*Copies of the reports of the Secretary, Treasurer, and John Kerr Rose are available on request from the Central Office.

INFORMAL DISCUSSION SESSION SUMMARIES

Teaching Introductory Geography on the University Level. Charles M. Davis, presiding. Attendance about 80. Procedure: 3 panelists with 10 minute résumés of mimeographed material (total 13 pp.) distributed at session; individual questions: general discussion. Panelists: Ross N. Pearson (Univ. of Michigan), Alfred H. Meyer (Valparaiso Univ.), and Andrew H. Clark (Univ. of Wisconsin).

At Michigan the first semester course is regional geography, using James' *A Geography of Man.* This is prerequisite to the second semester course on selected countries of timely interest using parts of Wheeler's *Regional Geography of the World.* These courses are classed as social science and meet sequence requirements for a degree but are not required by any department, including Geography.

At Valparaiso the Department recommends, and requires for majors, two semesters of Social Geography. Students seeking teacher certification may substitute Conservational Geography in the second semester.

Wisconsin offers the following courses: In the Social Science Division – Introduction to Geography: physical and cultural; The World: Peoples and Regions; and Economic Geography. In the Physical Science Division – Physical Geography: maps, landforms, water and minerals; Physical Geography: climate, vegetation, soils; Physical Earth and Its Resources: general survey.

Copies of the mimeographed papers giving details concerning these courses and programs may be obtained, upon request, from the Department of Geography, University of Michigan, Ann Arbor.

The discussion, which could apparently have gone on indefinitely, was based on the mimeographed material, as amplified by the speakers. Some discussants' comments were: 1) the universities are teaching for the benefit of majors and graduate students rather than to introduce geography into the education of other students; 2) it is difficult to secure competent class instructors; and 3) a similar discussion session on geography in teacher training and other non-university types of institutions would be desirable.

[Condensed from summary by Charles M. Davis]

Association Publications Policy. Stephen B. Jones, presiding. Attendance about 40. Procedure: Panelists and general discussion. Panelists: Edward Espenshade, Walter Kollmorgen, Meredith Burrill, and Henry Kendall.

Espenshade raised and commented on several questions of policy: Do available publication outlets suffice? Should the *Annals* become more functional? Should *The Professional Geographer* continue the "professional notes"? Is there need for a "transactions" volume covering annual meetings? Should the

Association publish: a) monographs, b) separate sheet maps, c) a serial reporting factual information gathered by geographers? Is there need for several regional serial publications?

Kollmorgen pointed out that the editorial load would be eased if authors would follow the *Chicago Manual of Style* and prepare illustrations more carefully and nearer to publication scale. He discussed current proposals for change in the *Annals* format and asked for a show of hands with reference to the cover. A slight majority favored retaining the present one.

Burrill commented on the function of *The Professional Geographer* as a medium of communication, and suggested that eight or nine issues per year with the same total pages might make it more useful to regional divisions. He also suggested inclusion of cartography papers in regular issues rather than in a "special" issue.

Kendall commented that the *Annals* editor, adding this service to his full-time job, cannot be responsible for the content of the wide range of geographic articles published, nor the accuracy of citations.

The ensuing discussion indicated interest in the proposed monographs and preference for continuance of "professional notes" in *The Professional Geographer*. After the session closed at the scheduled hour, the discussion continued on a more informal, person-to-person basis.

[Condensed from a summary by Marion Murphy]

Statistical Method in Geography. Harold McCarty, presiding. Attendance about 60. The opening discussion of the value of the statistical method for geographic research emphasized that this is merely another tool for geographers, who cannot afford to divorce themselves from maps as their primary tool, suggested that geographers avoid statistical methods too sophisticated for the problems and data in hand, and pointed out the danger of re-orienting the field toward problems permitting quantifiable solutions, as may already have happened in other disciplines. The consensus seemed to be that the geographer must first formulate a precise conceptualization of his problem, and then use the statistical method as and if appropriate.

The discussion of methods for selecting representative small areas by sampling techniques became involved with a discussion of traverse techniques, the dot planimeter, "probability sampling" as employed by the Department of Agriculture, short random traverses, spiral traverses, and the expanding square search traverse. It was generally agreed that sampling and traverse techniques are still relatively unreliable, with variations in scale posing a major problem. It was suggested that geographers might profitably pursue this further with agricultural economists and ecologists.

Scale and distance problems also arose in the discussion of areal correlation techniques. The danger of "rigging" data by squaring or otherwise tampering with the distance factor was discussed, but otherwise there was so little common ground for discussion that it was suggested that geographers interested in areal correlation techniques might well concentrate on applying various techniques to a single specific set of data, such as data for Pennsylvania counties in the City and County Data Book. It was pointed out that knowledge of our colleagues' failures and mistakes with the statistical method, as well as their successes, would avoid re-plowing infertile ground.

The concluding discussion of various elementary statistical treatises of value to the geographer not yet versed in the statistical method brought general agreement that geographers are not yet ripe for one of their own. An optimistic note was injected with the thought that disciplines other than geography have also

needed much painstaking and unspectacular labor before worthwhile results appeared from application of the statistical method.

[Summary by John Fraser Hart]

Marketing Geography. Saul B. Cohen, presiding. Attendance about 30. Procedure: panel papers and discussion. Panelists: Clyde F. Kohn, Northwestern University; Richard C. Coleman, University of Wisconsin; Saul B. Cohen, Boston University.

The session's theme was "Team Research in Marketing Geography." The informal papers were based upon a store location project carried out this past year by eight geographers, initiated by William Applebaum and sponsored by the Kroger Company of Cincinnati.

Dr. Kohn discussed a series of intensive urban studies by a team of his graduate students, analyzing and evaluating trading areas. Coleman analyzed trading area mapping techniques and presented a sample inventory of source materials for store location analysis. Dr. Cohen discussed supermarket location trends and metropolitan growth, and presented a shopping center problem analysis based upon the project's findings.

Making valuable contributions to the general discussion that followed were Dr. Howard Green of Stop and Shop, Inc. of Boston and Harry Suffrin, head of market research of Steinberg's, Ltd. of Montreal.

The response to this session indicates the growing interest in applying geographic research methods to business problems.

[Summary by Saul B. Cohen]

THE NATURE OF GEOGRAPHY

Richard Hartshorne

Copies of the 4th edition may be obtained from the Central Office of the AAG, The Library of Congress, Washington 25, D.C. The price is $2.00 plus 20¢ for handling in the United States, and 25¢ for handling in other countries.

In order to aid students, as in the past, this volume is published by the Association and sold at cost, with no royalties to the author.

REGIONAL DIVISIONS

NEW YORK METROPOLITAN DIVISION

Spring Field Excursion, Saturday, May 26, 1956

Members of the AAG and their guests in the New York–New Jersey area are invited to meet at New Brunswick on May 26th at 10 a.m. and travel by car through the rural sections of the Piedmont and Coastal Plain in the area between New Brunswick and Trenton. This area is the largest remaining open space between the Northeastern New Jersey Metropolitan Region and the Philadelphia–Trenton Metropolitan Region. Features of the physical geography and of the encroaching industrial–urban expansion along U. S. Route No. 1 and the Pennsylvania Railroad will be observed. The excursion is being planned by John E. Brush of Rutgers with the assistance of Adelbert K. Botts of Trenton State Teachers College and Malcolm Crooks of the Stony Brook–Millstone Watershed Association, Pennington, N. J. Persons expecting to attend should notify Dr. John E. Brush, Department of Geography, Rutgers University, New Brunswick, N. J., or Dr. John K. Dean, Department of Geology and Geography, Hunter College, 695 Park Avenue, New York 21, New York, not later than Wednesday, May 23. Automobile accomodations will be arranged for persons coming by train to New Brunswick. The excursion will terminate at New Brunswick at 5 p.m.

NEW YORK–ONTARIO DIVISION

The New York–Ontario Division held a successful annual meeting in Massena, N. Y., in October, as reported in the January *Professional Geographer.* Regrettably, none of the Division officers could attend. Chairman Cressey was abroad, Vice-Chairman Pleva had another commitment, and Secretary-Treasurer Betz had resigned upon taking a new position at California, Pa. Regrettably, also, no one attended from Ontario or Quebec, though notices were sent to more than 200 individuals in those provinces. The question of continued connections with Ontario geographers was discussed and put over to the next meeting.

The Division's *Selected Bibliography on the Geography of New York State,* prepared by Dr. Katheryne T. Whittemore with the assistance of Dr. Cressey, was distributed to members of the Division and of the New York Metropolitan Division. It contained over 125 entries.

The 1956 annual meeting will be held in Albany in October.

ANNOUNCEMENTS AND REPORTS

THE ASSOCIATION OF INDIAN GEOGRAPHERS

The Association of Indian Geographers was formally organized in December 1955, with the following objectives: "1) To popularize the study of Geography and to make the public conscious of the importance of Geography as a science which has its distinctive contributions to make in the various spheres of our national life, 2) To provide a forum for exchanging ideas on the current problems of Geography and to encourage and further new researches in them and to strive for an improvement in the standard of teaching of Geography both at School and College levels, 3) To cooperate with other Geographical Societies in this Country and abroad and with official agencies of the Government of India and of the United Nations (like the UNESCO) for the study of and research in Geography and generally for the advancement of the subject."

The Association plans to include lectures and popular talks, excursions and field studies, exhibitions of maps and other geographic tools, assistance in members' research through establishment of contacts, publication of a semi-annual journal to be called *The Indian Geographer*, establishment of a library, and maintenance of information service to members. The officers of the new Association are: President – D. N. Wadia, Atomic Energy Commission, New Delhi; Vice Presidents – S. Basu, S. P. Chatterjee, A. Dasgupta, M. S. Krishnan and V. Nath; Secretary – M. P. Thakore; Treasurer – M. L. Renjen; Executive Committee – Mohd. Amin, D. P. Bhutani, H. L. S. Kanwar, T. N. Labroo, S. N. Mehrota, A. Mukerji, Pritam Singh, and S. Varma; Editor – Dr. P. K. Sircar; Joint Editor – S. S. Bhatia; Contributing Editors – Dr. P. Dayal, V. S. Gananathan, C. D. Deshpande, Dr. Col. G. R. Gayre, and Dr. R. L. Singh. The address of the Association is: P. O. Box 644, New Delhi.

ANNALS MICROFILMED

Microfilm copies of the *Annals of the Association of American Geographers*, vols. 1–40 (1910–50) are available on 8 reels from the Photoduplication Service to the Library of Congress for $56. Individual volumes may be ordered at $2.25 each, postpaid. As many issues are out of print, this microfilm constitutes the least expensive method of filling gaps in the series and affords preservation without binding costs to libraries and individual collectors who want the 40–year sequence.

SEVENTH ALASKAN SCIENCE CONFERENCE

The annual Alaskan Science Conference will be held in Juneau, September 27–30, 1956. Symposia and sectional meetings will include agriculture, anthropolgy, biology, engineering, fisheries, forestry, geography, geology, geophysics, medicine, public health, and social sciences. Interested persons are invited to attend and participate. One may get on the mailing list for further announcements by writing to Howard Baltzo, Secretary, Alaska Division, AAAS, P.O. Box 14, Juneau, Alaska.

INVITATIONS FOR 1960 MEETING

Any department, institution, or city interested in inviting the Association or suggesting a place for holding the 1960 Annual Meeting should, through the person in authority, notify the Secretary.

INTERNATIONAL GEOGRAPHY SEMINAR PAPERS

The Library of Congress recently acquired a copy of the Program (Information Handbook) and negative photostat copies of 48 papers presented and discussed at the International Geography Seminar held at the Muslim University, Aligarh, India, January 9–16, 1956. These papers total 384 pages and cover a wide variety of subjects such as population and food resources, electrification and power developments, climatic changes, urban geography, dry climate adaptations, guides for teaching geography, and political geography. The papers reflect the quality and trend of geographical research and teaching in Australia, Bulgaria, Ceylon, China, East Germany, Egypt, India, Japan, Pakistan, Poland, Rumania, South Africa, the United Kingdom, and the USSR.

The Librarian of the Muslim University expects these papers to be published in the foreseeable future, but has supplied this set for reference use in the Library of Congress as part of an exchange agreement. Copies may be purchased through the Photoduplication Service of the Library of Congress as soon as the papers have been cataloged.

The cost of photoduplication is 55 cents per page; the average paper is four or five pages. Microfilming costs about 5 cents per page and 8 x 10 inch enlargements from microfilm 25 cents per page.

1952 WORLD DIRECTORY COPIES AVAILABLE

The Central Office has received a limited supply of the *1952 World Directory of Geographers* published by the International Geographical Union. Copies will be available as long as they last, on receipt of 25 cents to cover cost of postage and handling.

EMPLOYMENT OPPORTUNITIES

Alexandria University, Egypt, wants a physical geographer, Ph.D. with 8 years teaching experience, plus post-doctoral publications. Salary – $4,500 plus transportation and cost of living allowances. Send (within two months) inquiry to: The Dean, The Faculty of Arts, Alexandria University, Chatby, Alexandria, Egypt.

Development Analyst with real estate consulting firm, Ph.D. with training in urban and economic geography preferred. Salary – $5,000. Write to: Dr. D. Durden, 1208 Dupont Circle Building, Washington 6, D. C.

XVIII INTERNATIONAL CONGRESS EXCURSIONS

Word has been received from the Executive Secretary of the Organizing Committee of the XVIII International Geographical Congress that the cost of excursions will probably average at least 25% lower than the provisional figure in the first Circular.

Those wishing to take one or more excursions must, to hold a place, forward for receipt by May 25th a deposit of U. S. $50 per excursion plus $20 membership fee. The money must be sent by draft on the First National City Bank of

New York, not by check or money order. Enrollment in excrusions will be in the order of applicant's choice as far as possible. If all vacancies are filled the deposit will be refunded.

REPORT ON ANNUAL MEETING OF THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE

The 60th annual meeting of the American Academy of Political and Social Science on April 20–21 in Philadelphia had as its theme "Africa and the Western World." The session on "The Struggle for Control in North Africa" was an explosive one. The three speakers were Dr. Benjamin Rivlin of Brooklyn College, Roger Vaurs of the French Embassy, and Dr. Muhammed H. El–Farra of the Syrian delegation to the UN. Rivlin outlined the cultural setting and the conflicts among the Moslem elements, commented on the role of different groups in the nationalist movement, and pointed out the difficulty of blending Western progress with the Moslem heritage in North Africa. El–Farra stated that there is no French North Africa––it is all Moslem, and that France had attempted to integrate a nation as second-class citizens. He, and others, said that United States support of the West European partners in the NATO community had led African nations to lose confidence in the US and American democracy. Vaurs reviewed the history and achievements of French settlement in North Africa and stressed economic interdependence even after independence.

In the session on South Africa, Ambassador Holloway explained and defended apartheid. Prof. Gwendolyn M. Carter of Smith College pointed to the stirrings of colored peoples all over the world, analyzed the attitudes of the major groups toward apartheid in general and toward specific plans, expressed the view that apartheid retards economic progress. Harold C. Hochshield, Board Chairman of the American Metal Co., Ltd., told of integration in the Northern Rhodesian mining industry, the narrowing economic gap between whites and blacks there, and the decreasing tendency of native workers to quit and go back home when they had saved enough money. He deplored reserving jobs for whites as short sighted in view of white labor shortages and possible explosive consequences.

At the session on Emergent Self-Government in West Africa Dr. W. R. Bascom, Northwestern University anthropologist, pointed out that Africa had passed the Stone Age before Europeans came, that transition from one age to another does not require rejection of cultural heritage, and that the change necessary has been exaggerated though varying regionally. He cited as principal obstacles to self-government: 1) the cultural gap, 2) inter-tribal hostility and suspicion, 3) unrealistic boundaries, 4) white settlers' fear of loss of economic position, 5) Africa's strategic geographic position and resources, 6) the European standard of judgment as to readiness for self-government, and 7) slowness of training of natives. Roosevelt University sociologist St. Clare Drake described the Gold Coast as a "transitional democracy" with unsolidified goals, shifting from a sacred society to a secular one. He analyzed the 1954 elections, the political parties and the problem of minority regions. Harold Cooper of Johns Hopkins University, a former British Colonial civil servant, pointed to mistakes in both British colonial administration and the nationalists' approach. The British unwisely economized by using as intermediaries chiefs who were not real tribal leaders, hence the 1948 revolt in the Gold Coast. The nationalists tendency to oversimplify problems and blame the colonial power for everything diverted attention and energy away from cooperative solution of problems.

[Condensed from report by Guido G. Weigend, AAG delegate]

CONFERENCE ON TEACHING IN THE WEST ABOUT ASIA

Reports from 16 Western countries published in the current issue of the UNESCO *Courier*, preliminary to the conference opening in Paris on May 2, indicate a general feeling that Western school books convey inadequate understanding of Asia and its history. The *Courier* also pointed to Mecator maps as a source of misconceptions, with Europe in the upper center and exaggerated in relative size. Copies of *Courier* are available from the UN Bookshop for 25 cents.

WMO PANEL ON ATOMIC ENERGY

A. I. Wexler of the United States has been named to a panel with A. A. Danilin (USSR), B. Guilmet (France), and P. J. Meade (UK) to study meteorological aspects of atomic energy's peaceful use, with emphasis on atmospheric movement of radioactive waste and its use in tracing air masses.

CENTRAL AMERICAN ECONOMIC COOPERATION COMMITTEE

The third meeting of the Committee on Central American Economic Cooperation, of the UN Economic Commission for Latin America, was held in January in Managua. Participants were the Ministers of Economy of Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua, and an observer from Panama. The Committee agreed to recommend: multilateral regional free trade; a common customs tariff as a basis for a future customs union; recognition of common interest in the following industries: petroleum products, fertilizers, insecticides, veterinary and biological products, tires, paints, inks, ceramics, glass containers, pulp paper, fisheries products, metal piping, and absorbent cotton; establishment of a Central American Commission for Industrial Initiative, with two members from each country, one to be from private enterprise. Resolutions were also adopted on road transport, a merchant fleet, livestock and dairying, and electric power. Reports were received on the Industrial Research Institute recently opened in Guatemala, the Advanced School of Public Administration opened in 1954 in Costa Rica, and on progress in selecting a site for a paper mill in Honduras. The Committee meets next in Guatemala in January 1957.

N.B. PROGRAMLESS REGISTRANTS

The 475 registrations at Montreal considerably exceeded the most optimistic estimates, and enthusiasm for copies of the Program outran registrations. The later registrants who, unhappily, received no copy of the Program may obtain one, by writing to the Central Office, from the limited reserve supply.

NEWS FROM GEOGRAPHIC CENTERS

THE CLARK UNIVERSITY FIELD CAMP

Concerning the field camp, of which I am the Director, I cannot lay claim to teaching a program that "includes exercises in using or making p. i. keys, use of such things as portable stereo oblique plotter, height and slope finders, etc." Much as I admire these techniques, we do not include them at the field camp because we use the field camp to introduce new students to field work at the vary outset of their graduate study, and we get a brand new crop of students every year into whom we have to drill fundamentals. Some of them have to learn to read contour maps; some are foreigners learning English and completely mystified by the glacial deposits and their interpretation; almost all of them have never done field work before, and have their hands full just learning how to interpret scenery and land use. We give them first class topo sheets, and combine this with stereo interpretation of aerial photos; they also learn about plane tabling, measuring a base line, and making sketch maps, while at the same time cooperating in the joint venture of the camp which involves mapping about 200 square miles (in a different locality each year) for (1) surface geology, and (2) land use. Then they also spend some days on urban study in a nearby city, and make climatic and meteorologic investigations throughout the camp period. They are busy day and night, either in field work, listening to lectures by county agents, etc., posting the day's data during the evenings, or just plain eating and sleeping. I doubt if we could work much more into the program. One day is devoted to a visit and instruction from Raisz, whose material is unique.

When we get back to Clark and formal classes, Raisz runs a course in map and photo interpretation. We have plenty of aerial photos, stereoscopes, an Abrams Contour Finder, and Abrams Vertical Sketchmaster. Also standard telescopic alidade, transit, and a recently purchased Paulin altimeter. An examination of Raixz' textbook will reveal that he covers a lot of territory. Students can go as far as they wish in some of these techniques, but they don't all need them, and we are confident that they can learn specialized techniques whenever a particular job requires it. Much as we dream of dealing with the highest plane of learning in graduate school, some of us find ourselves teaching the three R's. I guess it always will be like that.

---Richard J. Lougee

[*Note:* The significance of field work to the discipline has been well pointed up in *American Geography: Inventory and Prospect*, and elsewhere. The full significance of the airplane and the aerial photograph to the discipline is not yet clear, but that it is great is already obvious. Putting these two thoughts together, it occurred to us that it might be useful to publish statements from various graduate departments as to the extent to which the new techniques and tools are used in field instruction. This first reply, from Richard J. Lougee, does something more. It outlines the purpose and concept, as well as the nature, of the Clark field camp exercise. Statements from other institutions will be published as received. ---Ed.]

MIAMI UNIVERSITY, OXFORD, OHIO

Miami has a growing Geography Department both in terms of student enrollment and in terms of staff additions. The latest addition is Byron E. Logan

who received his M.A. from Colorado and is completing his doctorate at North Carolina. John Thompson and Malcolm Murray obtained their Ph.D. degrees this year from Wisconsin and Syracuse respectively. Robert Perry is well on the way to completion of his dissertation (Clark). As program chairman for the Montreal meetings of the Association, Henry Kendall experienced a busy fall and winter. He is presently writing a book on the American Northeast (Wiley) and revising the text, "Introduction to Geography" by Kendall, Glindinning and MacFadden.

In 1957 the Association meetings are to be held in Cincinnati. The University of Cincinnati and Miami University are co-hosts. Henry Kendall is chairman of the local arrangements committee. In order to match the fine performance of the Montreal local arrangements committee we will be kept very busy indeed.

McMASTER UNIVERSITY

During the past session, there was a total of 25 students enrolled in the undergraduate Honours Course. Eight graduating students have successfully completed their theses of which three were based on research done at the Renfrew County field camp.

There are three students registered for post-graduate studies. Paul Pirie is continuing his research on urbanization in the Brantford area. C. D. Fogerty, who teaches at Preston, is pursuing prerequisite studies and continuing field work in the agricultural geography of Waterloo County. Al Burbidge, an honours graduate of the University of Toronto, and a teacher at Central Collegiate, Hamilton, has also commenced work for the M.A. Gordon Nelson, a graduate of 1955, who this year held a Fellowship at the University of Colorado, has received awards valued at $2,000 from Johns Hopkins University, Baltimore.

One new course was introduced during the year, the "Geography of the Polar Regions," which included some of the few lectures on the Antarctic given in Canada.

Professor L. G. Reeds submitted his thesis, "The Agricultural Geography of Southern Ontario," to the University of Toronto this year. He will be lecturing at the University of British Columbia in July and August. He continues as Vice-Chairman of the Hamilton–Wentworth Planning Area Board.

Professor W. H. Parker has continued his research for a D.Phil. thesis on "The Historical Geography of Canada," 1837. Unfortunately, he is leaving McMaster this spring, after four years of service, during which time he has taught Anthropology and Cultural Geography, the U.S.S.R., and the Historical and Regional Geography of Europe. Mr. Parker's independence and originality of thought have proven a stimulus to his students and colleagues, and his departure will be keenly felt.

Professor H. A. Wood has completed the research and mapping for his doctoral thesis, "The Departement du Nord, Haiti," a study of land utilization and settlement, and will be devoting the summer to writing. He has been elected Vice-Chairman of the New York–Ontario Division of the A.A.G. He was a member of the A.A.G. programme committee for the recent Montreal convention. As chairman of the Education Committee of the Canadian Association of Geographers, he has been busy establishing machinery for the provision of assistance to geography teachers across Canada, and in preparing information bulletins for circulation to them. His paper, "The St. Lawrence Seaway and Urban Geography, Cornwall–Cardinal, Ontario," was published in the *Geographical Review* last October: another paper, "The influence of the St. Lawrence Seaway upon the Cornwall–Prescott area, Ontario," has appeared in the *Canadian Geographer:* and his

report on "The Teaching of Geography in Canada," has been printed by the *Pan-American Institute of Geography and History.*

Dr. H. R. Thompson has been elected Chairman of the Southern Ontario Division of the Canadian Association of Geographers, and is already planning next January's meeting in Hamilton. His note, "A landslid moraine in Baffin Island," has recently appeared in the *Canadian Geographer,* and three others are in the press for the *Journal of Glaciology.* He will be lecturing at University of British Columbia this summer.

UNIVERSITY OF MICHIGAN

Effective on July 1, 1956, K. C. McMurry has resigned as chairman of the Department of Geography, a position that he has held since the Department was first organized in 1923. Under his chairmanship the Department achieved its present position in American geography. He will be succeeded by C. M. Davis.

Kuei-Sheng Chang and Morgan D. Thomas served as lecturers in the Department during the academic year 1955–56, and Allen D. Hellman as instructor. Dr. Chang gave courses on the geography of Asia; Dr. Thomas divided his time, giving courses in conservation at the School of Natural Resources and teaching economic and urban geography in the Department. Mr. Hellman was in charge of work in cartography.

Two members of the senior staff are on leave. Robert B. Hall, director of the Tokyo office of the Asia Foundation, has been in Japan since June 1955, directing the crucially important work of the Foundation concerned with American–Asian relations, and is at present lecturing at Todai University on the history of geographical exploration. He is expected to return to Michigan in June 1957. Douglas D. Crary left in June 1955, for South Africa where he and his family, aboard a converted Chevrolet panel truck, are now in the midst of a field reconnaissance trip from Durban to Cairo. They expect to return to Ann Arbor in September 1956.

Kenneth C. McMurry continued his work in the field of conservation and land use. Charles M. Davis has been active in the affairs of the Association, as member of the Nominations Committee, and, at the Montreal meetings, as a member of the panel on the problems of teaching of geography. Stanley D. Dodge was consecrated as a priest in the Episcopal Church. While continuing his work as a member of the Michigan staff, Professor Dodge has been active in carrying on his ministry in Ann Arbor and in churches in the general area of southeastern Michigan. George Kish is now in his third year as chairman of the Degree Program in Russian Studies at the University of Michigan. During the summer of 1956 he will be in charge of the third special summer program in Russian Studies in Ann Arbor.

The Department had a graduate enrollment of 57 students in the spring term. Of the 41 in residence 10 were candidates for the master's degree and 31 for the doctorate. There were 25 undergraduate majors in geography. Former students receiving the doctor's degree in the spring and summer of 1955 include Francis P. Kallay (University of Alabama), David Kornhauser (Pennsylvania State University), Neil N. MacArthur (Michigan State Normal College), Forrest R. Pitts (University of Oregon), and Kuei-Sheng Chang.

The Department continues to participate in inter-departmental and inter-university seminars on land utilization, on urban planning, in Russian, Latin American, and Japanese studies.

In April 1956 Prentice–Hall published "An Introduction to World Geography," edited by George Kish. Among the contributors on the Michigan faculty are

Robert B. Hall, C. M. Davis, S. D. Dodge, D. D. Crary; among Michigan alumni: J. D. Eyre and F. R. Pitts have contributed to this volume on world regional geography. Ross N. Pearson, chairman of the East Lakes Division of the Association and immediate past chairman of the Geography Section of the Michigan Academy, plans a reconnaissance field trip in Northern Latin America during the summer of 1956.

AVAILABLE NOW

AMERICAN GEOGRAPHY: INVENTORY AND PROSPECT

edited by

Preston E. James

and

Clarence F. Jones

with

John K. Wright

as consulting editor

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PERSONAL NEWS

J. SULLIVAN GIBSON, University of North Carolina, has recently received a substantial grant from the University's Institute for Research in Social Sciences, for a two-year study in agricultural geography using the land-use type approach. Reconnaissance field work in the southeast will begin this summer. Research assistants will be assigned to the project in September.

WOODROW R. CLEVINGER (Ph.D., University of Washington, 1955) has been appointed marketing analyst and cartographer in the Washington State Department of Agriculture. The first geographer to be employed by this department of the Washington State government, he is working on a research and writing project which will publish a series of bulletins dealing with the agricultural history, geography, marketing and statistics for each Washington county.

ELEANOR E. HANLON, Syracuse University, is practicing what she preaches in the professional note in this issue. She is Secretary–Treasurer of the Natural Resources Council of Onondaga County, and "Director" of preliminary research for the Limestone Creek Watershed Council in the same county. One MA thesis and two projects by her graduate seminar in land use are near completion.

JAN O. M. BROEK, University of Minnesota, gave two public lectures on April 27 and 28 at the University of Missouri under the sponsorship of the Department of Geography and the Missouri Council of Geography Teachers. His subjects were *Minority Groups in Southeast Asia* and *Borneo: Backwoods or Frontier?*

DONALD D. MacPHAIL, Western Washington College of Education, whose note on geography in school planning appears in this issue, will teach in the coming summer session at Michigan State University.

ROGER H. CHARLIER, Hofstra College, has been selected as review editor for the French edition of the *International Geographical Union Newsletters.*

WILLIAM F. CHRISTIANS, Professor of Geography at the University of Pennsylvania, died of a heart attack on March 13 at the age of 52. Born in Victor, Colorado, Dr. Christians received from the University of Chicago the degrees of Bachelor of Philosophy (1925), Master of Science (1932), and Doctor of Philosophy (1938). After teaching at Syracuse University in 1932–33, he joined the staff of the University of Pennsylvania's Wharton School of Finance and Commerce in February 1934. During World War II, he served in the Office of Strategic Services, for part of that time as chief of its map division in China.

Dr. Christians served the Association in many capacities, most recently as a member of the 1955 Nominating Committee and as Chairman of the Local Arrangements Committee for the 50th Anniversary Meeting in Philadelphia.

NEW PUBLICATIONS

Geography as a Humane Study. E. W. Gilbert. Clarendon Press, Oxford. 1955. 23 pp. 2 shillings, 6 pence.

In this inaugural lecture as Professor of Geography in the University of Oxford, delivered on 12 November 1954, Gilbert looks first backward, then forward. After tracing the long history of geography at Oxford from the three-day lecture by Gerald of Wales on the *Topography of Ireland* in 1187, he lays out four main lines for expansion of the Oxford tradition: more research on the geography of the British Colonial Empire, more research in political geography, development of historical geography, and further developments in the field of urban geography.

Conservation of the Living Resources of the Sea. United Nations. Columbia University Press. New York. 371 pp. $3.00.

This volume contains 23 papers presented in the International Technical Conference on the Conservation of the Living Resources of the Sea, held in Rome, April 10–May 12, 1955. The papers cover a wide range of scientific technical and legal aspects of the subject and some specific area studies. Fifty charts and maps cover such matters as distribution of the sea's resources – from plankton to tuna.

International Bibliography of Economics. Vol. II. Available from UNESCO Publications Center, 475 Fifth Avenue, New York, N. Y. $7.50.

More than 6,000 titles are listed in Volume II of the *International Bibliography of Economics,* published by the United Nations Educational, Scientific and Cultural Organization in its *Documentation in the Social Sciences* series. It covers works published in 1953.

This project is part of the general program of the International Committee for Social Science Documentation set up in 1951 with UNESCO support. Others in the series are the *International Repertory of Social Science Documentation Centers, World List of Social Science Periodicals, A Register of Legal Documentation in the World,* and *International Bibliography of Political Science.*

Works listed in the new volume are classified under the following headings: Preliminaries, methods, general and basic works, history of economic thought, economic history, economic activity, organization of production, production (foods and services), price and markets, money and finance, income and income distribution, demand (use of income), social economics and policy, public economy and international economics. There are three detailed indexes –– subject, author, and geographical.

UNESCO gives annual subventions to five international organizations in the fields of social science, most of which have been set up with the help of UNESCO in the past 10 years. They are the International Economic Association, International Political Science Association, International Sociological Association, International Union of Scientific Psychology and International Association of Legal Science. These bodies undertake certain specific professional studies on behalf of UNESCO and their International efforts are coordinated through the International Social Science Council, which in turn maintains the International Committee for Social Science Documentation.

A Comparative Analysis of Curricula and Techniques Used in the Training of Photographic Interpreters. (Lt. Col.) S. A. Custer and Sylvia R. Mayer. Technical Note 119, Optical Research Laboratory, Boston University, March 1955. 115 pp.

Following an exploratory study to determine the optimal characteristics of photointerpretation methods and materials, this note presents an extensive analysis of photointerpretation training resources of academic institutions and military schools in the United States. Information on photointerpretation course enrollment, staff, content and facilities is analyzed separately for university and military groups, and then compared. Some implications of the findings are discussed.

Most photointerpretation courses offered by universities are under the direction of the departments of geography, geology, forestry and engineering. Interestingly, of the approximately 750 colleges and universities in this country offering courses in geography only 36 list courses in photointerpretation. Of these 36 institutions, 9 reported no course offered and 6 did not respond to the questionnaire. Hence this survey of course offerings deals only with 21 departments of geography offering a total of 29 courses.

The study states that, "Of the many colleges and universities which have extensive facilities for teaching photointerpretation, it appears that the Geography divisions could most readily satisfy military photointerpretation training needs, as they are concerned with both cultural and physical features."

---J. A. B.

Geographic Names of Antarctica. Gazetteer No. 14. With a foreword by Meredith F. Burrill and a List of Expeditions by Kenneth J. Bertrand and Fred G. Alberts. Board on Geographic Names. January 1956. For sale by Superintendent of Documents, Government Printing Office, Washington 25, D. C. ii and 332 pp. 9½ x 12 inches. $2.25.

This gazetteer containing about 3,400 names officially standardized by the Board on Geographic Names as of the date of publication and 1,300 cross-references from variant names, represents the fruit of more than a decade of research and a large measure of international cooperation. The volume is unique in this gazetteer series. The entries for approved names include not only the usual designation and coordinates of latitude and longitude, but also the distance and direction from other features and the facts of naming.

The Foreword sets forth the nature of the problems, recounts the steps in the research and standardization process, states the governing policy in detail and explains its application, and summarizes the present situation.

The List of Expeditions, brought up to 1954–55, covers some 160 expeditions penetrating south of the Antarctic Convergence, not including whaling voyages that did not result in discovery or naming, or sealing voyages for which information is inadequate to complete the listing. The entry for each listed expedition includes dates (inclusive years), title (if any), leader, ships, and a summary of operations and activities.

Mexico. Gazetteer No. 15. Board on Geographic Names. April 1956. Superintendent of Documents, Government Printing Office, Washington 25, D. C. 756 pp. $3.25

This gazetteer contains about 53,000 names officially standardized in their Mexican form and spelling and cross-references from unapproved names. The density of coverage is approximately equal to that of maps at the scale of 1:500,000. The foreword contains explanatory notes and a glossary of generic terms occurring in the names.

British Honduras. Gazetteer No. 16. Board on Geographic Names. March 1956. For sale by Superintendent of Documents, Government Printing Office, Washington 25, D. C. ii and 25 pp. 25 cents.

This gazetteer contains 2,000 entries for places and features in British Honduras, where the nomenclature is a mixture of English, Spanish, and aboriginal names.

Preceedings of the International Conference on the Peaceful Uses of Atomic Energy. 16 vols. English language edn. United Nations Bookshop, United Nations, N. Y. 7,882 pp. $130 per set.

These volumes, containing all papers and verbatim records of the August 1955 conference, are also available separately. Of particular interest to geographers is Vol. I, *The World's Requirements for Energy: The Role of Nuclear Power,* price $8, presenting statistics on available energy resources and predicted requirements, by countries.

Census Tract Street Directory, Austin, Texas. Bureau of Business Research, Austin, Texas. 1955. Price not stated.

This revision of a pamphlet first published in 1949 lists streets and numbers by census tracts to be used in the 1960 census. The two maps show tract boundaries in Austin and Travis County.

Our United States: Its History in Maps. Edgar B. Wesley. Denoyer–Geppert Co. Chicago. 1956. 96 pp. 8½ x 11 inches. $2.00, paper; $3.25, fabrikoid.

This is an atlas of United States history designed for student use with standard texts, incorporating among some 60 maps many from the *Our America* and *American History* colored wall map series. Physical maps of the United States and the World in color are used as end papers. There is a one-page textual guide for each page of maps, a six-page calendar of events and an index of more than 2,500 names of historical significance.

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